

PATENT

UNITED STATES DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

5 INVENTION: Compartmentalized Hair Styling Apparatus
INVENTOR: L. Marie Krey

TECHNICAL FIELD

The present invention generally relates to devices for the storage of
10 catamenial related products and more particularly to a comb or brush
incorporating compartments for the convenient and inconspicuous storage and
transport of catamenial related articles.

BACKGROUND OF THE INVENTION AND PRIOR ART

Convenient access to catamenial related products such as tampons,
15 sanitary napkins, pharmaceuticals, feminine wipes, panty shields, and the like is a
necessity for many women. Traditionally, women have carried catamenial related
products in their purses, briefcases, or pockets. When doing so, women often find
that the unprotected items become crushed and unusable. In addition, the paper or
plastic covering for the products may tear, making the items susceptible to
20 moisture or contamination, rendering them useless or unsanitary. Worse, the
items can often become misplaced when they are urgently needed.

When the products are needed, it can be embarrassing for a woman to
have to retrieve an item from a purse or brief case and carry it to a restroom.
Women often will try and hide the products or will be forced to carry a purse or
25 other case with them to a restroom.

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In addition to the above issues, it is often inconvenient or impractical to have to carry multiple catamenial related items in a purse along with wallets, keys, brushes, etc., where space is often at a premium. This is particularly true if a women wishes to carry a small evening purse.

5 Over the years, several attempts have been proposed to address the convenience of storing catamenial products. For example, a wallet-like carrying case containing a pocket for the insertion of tampons is disclosed in U.S. Pat. No. 4,286,639 to Murphy. However, the case does not provide crush resistance for the product held therein. This device also does not address the issue of having
10 limited space, since the case must be carried in addition to other items.

Another example is seen in U.S. Pat. No. 5,046,620 to Barabino which discloses a multi-compartmental carrying case that includes a partition to separate catamenial related products from more frequently accessed items such as cosmetics. This device also does not provide crush resistance and a product
15 stored within the separated storage area is susceptible to being crushed. Also, this device does not address the issue of having limited space, since the case must be carried in addition to other items.

Other inventors have addressed the desirability of combining hair brushes and storage. None of the devices, however, address catamenial products. For
20 example, U.S. Patent No. 168,428 to Teets teaches a hair brush having a hollow handle for storing a comb. It further teaches a hollow body for storing cosmetics. A further example is seen in U.S. Patent No. 5,337,764 to McKay which teaches a

brush having a handle for storing make-up items and a brush head for storing powder. While these inventions advance the art field, they do not contemplate or teach the use of a brush for storing catamenial products nor do they teach separate compartments for the safe storing of multiple catamenial related products.

5 Accordingly, there is a need for an apparatus that enables a user to simultaneously, discretely, and conveniently carry multiple catamenial related products while at the same time reduce the total number of items to be carried.

OBJECTS AND ADVANTAGES OF THE INVENTION

 It is, therefore, an object of the present invention to provide an apparatus
10 in which multiple items for catamenial use can be carried safely, conveniently, and discretely.

 It is another object of the present invention to provide a crush resistant container for catamenial related products.

 It is still another object of the present invention to provide a portable
15 container for catamenial related products.

 It is yet another object of the present invention to provide a portable container for storing many different types of catamenial related products.

 It is a further object of the present invention to provide an apparatus that reduces the number of overall items women need to carry.

20 It is yet a further object of the present invention to provide such an apparatus in the guise of a hair styling tool.

SUMMARY OF THE INVENTION

According to the present invention, a hair styling apparatus having an essentially hollow handle adapted for carrying at least one tampon and an essentially hollow body having at least one storage compartment for storing other items, such as sanitary wipes and pharmaceuticals is presented. The invention enables a user to carry one or more items in a manner that is convenient, organized and inconspicuous. Privacy is maintained because the catamenial related products are carried discreetly inside the hollow part of the brush or comb. Additionally, a styling brush or a comb is useful in and of itself and provides additional flexibility while at the same time reduces the overall number of items required to be carried. The inventive device can be carried openly to a restroom.

The invention is therefore superior to devices currently used to carry loose articles, which have no function other than to carry other items. This device presents the heretofore uncombined features of privacy, functionality and convenience and provides an advantageous and novel way for women to carry articles of menses.

Before explaining the preferred embodiment of the present invention in detail, it is to be understood that the present invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The present invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and

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terminology employed herein are for the purpose of description and should not be regarded as limiting.

There has been outlined above, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and that will form the subject matter of the invention.

As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

Further, the purpose of the foregoing abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the present invention in any way.

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These together with other objects of the present invention, along with the various features of novelty which characterize the present invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the present invention, its operating
5 advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there is illustrated a preferred embodiment of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a top view of the preferred hair styling tool wherein the handle is shown in cross section with an end cap and the body is shown in total with a single lid disposed to reversibly seal the at least one compartment.

5 FIG. 1a illustrates a top view of a hair styling tool wherein an alternate single lid design is depicted.

FIG. 2 illustrates a top view of an alternative hair styling tool wherein the handle is shown in cross section with an end cap and the body is shown in total with multiple lids disposed to reversibly seal the at least one compartment.

10 FIG. 3 illustrates a cross sectional side view of a hair styling tool in the form of a brush with representative items stored within it.

FIG. 4 illustrates top view of a hair styling tool depicting an alternate embodiment of the handle wherein a lid is used.

15 FIG. 5 illustrates a side view of an alternate embodiment of the invention for use with a hair styling tool wherein the means for styling span the circumference of the body and a handle end cap and a body cap are used.

FIG. 6 illustrates a side view of an alternate embodiment of the invention for use with a hair styling tool wherein the means for styling span the circumference of the body and a handle lid and a body cap are used.

20 FIG. 7 illustrates a cross sectional view an alternate embodiment of the invention in the form of a comb having tines on the body.

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FIG. 8 illustrates a top view of a comb style embodiment wherein the handle is shown with an end cap and the body is shown with a single lid disposed to reversibly seal the at least one compartment.

FIG. 9 illustrates a top view of a comb style embodiment wherein the
5 handle is shown with an end cap and the body is shown with multiple lids disposed to reversibly seal the at least one compartment.

FIG. 10 illustrates a side view of an alternate embodiment of the invention in the form of a comb having tines along the entire length of the apparatus with an end cap at each end of the apparatus.

10 FIG. 11 illustrates a top view of a comb style embodiment of the invention in the form of a comb having tines along the entire length of the apparatus wherein a single lid is disposed to cover multiple compartments, the FIG. further illustrating cut-away views of representative items stored within it.

FIG. 12 illustrates a top view of a comb style embodiment wherein two
15 lids are disposed to cover multiple compartments.

FIG. 13 illustrates a top view of a comb style embodiment wherein the lids are disposed to cover multiple compartments.

FIG. 14 illustrate an alternate embodiment of brush style wherein the body is solid and an end cap is disposed to reversibly seal the opening of the handle.

20 FIG. 15 is a side view of the embodiment in FIG. 14 illustrating the bristles.

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FIG. 16 illustrate an alternate embodiment of comb style wherein the body is solid and a cap is disposed to reversibly seal the interior space opening of the handle.

FIG. 17 illustrates a top view of a comb style embodiment wherein an end
5 cap is used at each end to cover a respective compartment and a lid is used to cover a center compartment.

FIG. 18 illustrates a feminine wipe package.

FIG. 19 illustrates a feminine wipe separate from the package and unfolded.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Hair brushes and combs take many forms. In view of the teachings and suggestions of the disclosure which follows, those skilled in the art of machine design will know how to construct any type of brush or comb that embodies the
5 present invention.

Turning to FIG. 1, a top view of a representative hair styling apparatus 30 made according to the invention is presented. Apparatus 30 includes an elongate handle 32 that extends longitudinally from body 34. Handle 32 is an essentially hollow member having an interior space 36. Handle 32 further includes a first
10 end 38 and a second end 40.

In the preferred embodiment, first end 38 has an opening 42. Opening 42 is adapted to receive a catamenial related product. Opening 42 can be reversibly sealed using end cap 44. As those skilled in the art will quickly understand, end cap 44 can take many forms, for non-limiting example, a compression type fit
15 using a hinge member 46 (as illustrate in FIG. 1) or a threaded fitting (not shown).

The body 34 of the preferred embodiment, as shown in FIG. 1, preferably contains two substantially hollow compartments 48 and 50, which are separated from the handle 32 by an inner wall 56. The preferred first compartment 48 and preferred second compartment 50 are separated within body 34 by a divider 52, as
20 will be discussed further in FIG. 3. The compartments 48 and 50 are adapted to receive catamenial related products.

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The compartments 48 and 50 can be reversibly sealed using body cap 54. As those skilled in the art will quickly understand, body cap 54 can take many forms, for non-limiting example, a compression type fit using a hinge member 58 (as illustrate in FIG. 1) or a threaded fitting (not shown), where point 60 of the
5 body cap 54 and point 62 of the body 34 meet when sealed.

FIG. 1a illustrates an alternative embodiment 100 depicting a top view of a hair styling tool wherein an alternate cap 102 design is depicted in its exploded state. As shown, a compartment 104 is shown, which is generally defined by the dashed line 110, which runs along the body 108. The compartment 104 can be
10 reversibly sealed using the cap 102. As those skilled in the art will quickly understand, cap 102 can take many forms, for non-limiting example, a compression type fit using a hinge member 106 (as illustrate in FIG. 1) or a threaded fitting (not shown), where point 96 of the cap 102 and point 98 of the body 108 meet when sealed.

15 Another alternative embodiment is shown in FIG. 2, where those skilled in the art will also understand that the integrity of the scope and spirit of the invention is preserved. As shown in FIG. 2, an alternative apparatus 70 is shown where the body 74 is formed to contain two compartments, a first compartment 76 and second compartment 78. In this alternative embodiment, each compartment
20 76 and 78 is reversibly sealed by its own cap 80 and 82, respectively, such that exploding one cap 80 or 82 only reveals its respective compartment 76 or 78. As those skilled in the art will quickly understand, caps 80 and 82 can take many

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forms, for non-limiting example, a compression type fit using a hinge member 84 and 86 (as illustrate in FIG. 1) or a threaded fitting (not shown), where point 92 of the first cap 80 and point 88 of the body 74 meet when sealed, and where point 94 of the second cap 82 and point 90 of the body 74 meet when sealed

5 FIG. 3 illustrates a cross sectional side view of the preferred apparatus 30 with representative items, tampons 64 stored within interior space 36, pharmaceuticals 66 stored within first compartment 48 and feminine wipes 68 stored within second compartment 50. As shown, the interior space 36 is defined generally along the hollow opening 42 of the handle 32 and extends from the first
10 end 38 to the second end 40. The first compartment 48 is defined generally as the area between the inner wall 56 and divider 52 and the second compartment 50 is defined generally as the area between divider 52 and body wall 51. Also shown are a plurality of bristles 72, which have their respective bases embedded in body 34 and are accordingly firmly held thereby.

15 FIG. 4 illustrates top view of an alternate embodiment 112 and its associated handle 114 wherein a lid 116 is used to reversibly seal an interior space (not shown) of the handle 114. The body 34 is cutaway for illustrative purposes. The lid 116 can be reversibly sealed to the handle 114 as described in the embodiment above using a compression type fit using a hinge member 118 (as
20 illustrate in FIG. 4) or a threaded fitting (not shown). Alternatively, the lid 116 can create a reversible seal by a compression type fitting without the use of a hinge member.

FIG. 5 illustrates a side view of an alternate embodiment 120 for use with a hair styling tool wherein the means for styling are bristles 126 that span the circumference of the body 148 and a handle end cap 132 and a body cap 134 are used. As illustrated, the handle end cap 132 and body cap 134 are reversible
5 sealed to the body 140 by hinge members 128 and 130, respectively, in a fashion as discussed above. An opening 140 allows catamenial products to be placed within a hollow portion of the body 148 that runs from the first end 142 to the inner wall 136, illustrated as a dashed line. Additionally, opening 124 allows catamenial related products to be placed within two hollow portions of the body
10 148, where both hollow portions run from the second end 144 to the inner wall 136, and where the portions are separated from each other by a divider 138.

FIG. 6 illustrates a side view of yet another alternate embodiment 122 where a lid 146 is used and is reversibly sealed to the body 148 as described in the embodiment above using a compression type fit using a hinge member 150 (as
15 illustrate in FIG. 6) or a threaded fitting (not shown). Alternatively, the lid 150 can create a reversible seal by a compression type fitting without the use of a hinge member 150.

FIG. 7 illustrates a cross sectional view an alternate embodiment 152 in the form of a comb having tines 160 fixedly secured to the body 168. In this
20 alternative embodiment, an interior surface 154 is revealed that is adapted to receive a catamenial related product, preferably through opening 156, which is reversibly sealed using a cap 176 and hinge 174, as discussed in the manners

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described above in FIG. 1. However a lid (not shown) may be used to reversibly seal to the body 168, as previously discussed in FIG. 6. The interior surface 154 extends from the first end 158 to the inner wall 162. As shown in FIG. 6, the embodiment 152 also has two compartments 164 and 166. The first compartment
5 164 is defined generally as the space between inner wall 162 and divider 170, whereas the second compartment is defined generally as the space between divider 170 and second end 172. The compartments 164 and 166 may be reversibly sealed in a similar manner as shown in FIG. 1 and 2.

FIG. 8 illustrates lid 178 reversibly sealed to the body 168. The lid 178
10 can be reversibly sealed to the body 168 as described in the embodiment above using a compression type fit using a hinge member 178 (as illustrate in FIG. 4) or a threaded fitting (not shown). Alternatively, the lid 178 can create a reversible seal by a compression type fitting without the use of a hinge member.

FIG. 9 illustrated yet another embodiment 190, where each compartment
15 164 and 166, as shown in FIG. 7, is reversibly sealed by its own cap 180 and 182, respectively, such that exploding one cap 180 or 182 only reveals its respective compartment 164 or 166. As those skilled in the art will quickly understand, caps 180 and 182 can take many forms, for non-limiting example, a compression type fit using a hinge member 186 and 188 (as illustrate in FIG. 9) or a threaded fitting
20 (not shown). Alternatively, the caps 164 and 166 can be formed to create a reversible seal by a compression type fitting without the use of a hinge member.

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FIG. 10 is yet another embodiment, which is analogous to FIG. 5, however the means for styling are tines 160 that span the entire length of the body 196 of a comb. As illustrated, the first end cap 198 and second end cap 200 are reversible sealed to the body 196 by hinge members 202 and 204, respectively, in a fashion as discussed above, in FIG. 1. An opening 206 allows catamenial products to be placed within a hollow portion of the body 196 that runs from the first end 210 to the inner wall 214, illustrated as a dashed line. Additionally, opening 208 allows catamenial related products to be placed within two hollow portions of the body 196, where both hollow portions run from the second end 212 to the inner wall 214, and where the portions are separated from each other by a divider 216.

FIG. 11 is a cutaway of yet another embodiment where lids 236 and 238, as shown in FIG. 12, as removed revealing tampon 64 enclosed within inner space 220, feminine wipe 68 enclosed within first compartment 222 and pharmaceuticals enclosed within second compartment 224. As shown, inner space 220 is represented as the area between the first end 226 and inner wall 232, the first compartment 222 is represented as the area between the inner wall 232 and divider 234, and the second compartment 224 is represented as the area between divider 234 and second end 228.

FIG. 12 illustrates lid 236 reversibly sealed to the body 230, thereby sealing the inner space 220 of FIG. 11. Additionally, lid 238 is reversibly sealed to the body 230, thereby sealing the first compartment 222 and second compartment 224 of FIG. 11. As shown, hinges 240 and 242 reversibly seal the

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respective lids 236 and 238, however the reversibly seal similarly discussed in FIG. 8 can be utilized.

FIG. 13 is yet another embodiment illustrating lids 244 and 246 being reversibly sealed to body 230 through use of respective hinges 248 and 250, however, the reversibly seal similarly discussed in FIG. 8 can be utilized. In this embodiment, similar to FIG. 2, each compartment 222 and 224, as shown in FIG. 10, is reversibly sealed by its own lid 244 and 246, respectively, such that exploding one lid 244 or 246 only reveals its respective compartment 244 or 246.

FIG. 14 illustrates another embodiment 252 of the brush style embodiment wherein an opening 268 permits catamenial related products can be placed within the inner space 270, and an end cap 260 proximate to the first end 261 is used to reversibly seal the respective inner space 270. Similar to FIG. 2, those skilled in the art will quickly understand, cap 260 can take many forms, for non-limiting example, a compression type fit using a hinge member 266 (as illustrate in FIG. 14), or a threaded fitting (not shown), where point 262 of the cap 260 and point 264 of the handle meet when sealed. FIG. 15 is a side view of FIG. 14 illustrating the cap 260 in a closed state and further illustrating the bristles 258 fixedly secured to the head 254.

FIG. 16 illustrates yet another embodiment 272 of the comb style. This embodiment has a compartment reversibly sealed similar to that described in FIGS. 14 and 15. However, this embodiment 272 illustrated tines 274 being fixedly secured to the head 276.

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Still yet another embodiment is shown in FIG. 17, a top view of similar style of comb as illustrated in FIG. 10. In this embodiment 278, the body is hollow and separated into three sections by a first inner wall 296 and second inner wall 298. Thus is formed three compartments, the first compartment defined generally as the area between the first end 300 and first inner wall 296, the second compartment defined generally as the area between the first inner wall 296 and the second inner wall 298, and the third compartment defined generally by the second inner wall 298 and the second end 302. A lid 280 is provided to reversibly seal to the body 290, and thereby sealing the second compartment. As shown, hinge 304 reversibly seals the lids 290, however the reversibly seal similarly discussed in FIG. 8 can be utilized.

Additionally, as illustrated in FIG. 16, the first end cap 282 and second end cap 284 are reversible sealed to the body 290 by hinge members 286 and 288, respectively, in a fashion as discussed above, in FIG. 1. An opening 292 allows catamenial products to be placed within the first compartment, as discussed above, of the body 290. Additionally, opening 294 allows catamenial related products to be placed within the third compartment, as discussed above, of the body 290.

One item that many women find particularly helpful is a sanitary wipe 300 (FIG. 19). The wipe can be of any variety acceptable to the user but the inventor preferably contemplates a sanitary wipe sized and packaged to fit in any of the compartments. The inventor has developed a sanitary wipe 300 (FIG. 19) that is

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individually packaged and sized to fit within, for example, compartment 48 or compartment 50. The sanitary wipe 300 is housed in a sealed package 302 (FIG. 18) having a first package length L3 and a second package length L4. Length L3 and length L4 are preferably 3 cm with a range of 2.5 cm to 4 cm being
5 acceptable. The inventor has found that this range for the package is ideally suited for use with the apparatus while at the same time enables the package to contain a sanitary wipe of sufficient size to be of value yet not so large as to limit the number of sanitary wipes that can be transported at any given time. As for the sanitary wipe 300, the inventor has found that a 5cm x 5 cm size is ideal; however
10 the wipe can range in size from 4 cm x 4cm to 8 cm x 8 cm and still fit the criteria of the package 302.

While a preferred embodiment of the invention has been disclosed, various modes of carrying out the principles disclosed herein are contemplated as being within the scope of the following claims. Therefore, it is understood that
15 the scope of the invention is not to be limited except as otherwise set forth in the claims.

It is to be understood, however, that even though numerous characteristics and advantages of the preferred and alternative embodiments have been set forth in the foregoing description, together with details of the structure and function of
20 the embodiments, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size and arrangement of parts within the

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principles of the invention to the full extent indicated by the broad general
meaning of the terms in which the appended claims are expressed.